



Submission in response to
ACMA consultation paper

**Proposed framework for
long-term licensing of
radionavigation-satellite
service (RNSS)
retransmission
technologies**

PUBLIC VERSION

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OPTUS RESPONSE TO ACMA PROPOSALS

1. Optus welcomes the opportunity to provide feedback to the Australian Communication and Media Authority's (ACMA) June 2024 consultation on the Proposed framework for long-term licensing of radionavigation-satellite service (RNSS) retransmission technologies (the "Consultation paper").
2. The ACMA seeks comment on a proposed framework to support the long-term licensing of RNSS repeater devices (RRDs) as well as technical guidelines (draft RALI MS 49) and pricing arrangements to be implemented as part of the overall licensing framework. Optus and the wider mobile sector have previously raised concerns about the interference risk posed by RNSS devices to telecommunications networks. To mitigate such risks, industry cautioned against adopting too permissive a framework and recommended that the ACMA conduct trials of RNSS before enabling wider use.
3. Optus has reviewed the proposed framework, draft technical guidelines (RALI MS49) and pricing arrangements and considers that the proposed framework attempts to strike a reasonable balance between allowing RNSS repeaters in specific circumstances where they may provide a public benefit, while ensuring sufficient conditions are in place to limit the interference risk to other licensed services. In particular, we welcome the transparency afforded by the proposed use of apparatus licensing rather than class licensing, the restriction of the licensing framework to "indoor" RRDs and the registration requirements of draft RALI MS49.
4. That said, we consider minor amendments and clarifications to the operation of the framework may help ensure it is fit for purpose. For example, having regard to international experience, we consider a more robust requirement for RRD operators to conduct coordination as a pre-requisite to applying for a radiodetermination licence would promote compliance and lessen the interference risk that may arise from poor installation practices. We also consider reference to relevant Australian installation standards and guidelines may also help promote best practice.
5. We also note that the proposed framework appears premised on the view that earlier short-term trial in road tunnels have been successful – however, Optus is not aware of having been provided with any data or evidence to indicate that is the case. We also understand that the ACMA has adopted the guidelines used to conduct those trial as the basis for draft RALI MS49 and would welcome confirmation as to whether there were any changes to those original guidelines following the trials.
6. While Optus generally support the approach that the ACMA has adopted we would welcome further engagement with the ACMA on the proposed framework via industry briefings, a Spectrum Tune-Up and/or Technical Liaison Group (TLG) well before the proposed commencement of the framework in mid-2025. Optus sets out our feedback in more detail below and would welcome the opportunity to discuss these matters and the ACMA's proposed implementation and oversight of the framework.
7. Optus also refers the ACMA to the Australian Mobile Telecommunication Associations (AMTA) submission in response to the Consultation Paper. Optus supports the positions set out in the AMTA submission.

General approach to the long-term licensing of RRDs appears reasonable

8. Optus acknowledge that there are clear public interest benefits, including for emergency services, to be served by enabling the use of RNSS technologies.¹ However, support for publicly beneficial new technologies should be balanced against managing the impact to incumbent services, particularly where any resultant interference may have real world network performance and potential safety implications.
9. Optus has previously raised concerns about the potential interference risk posed by adopting too permissive a regime for the use of RNSS devices, in particular RRDs. In particular, we have highlighted the risk of unintended consequences to the operation of telecommunications networks, including to the use of GPS for timing, location and other purposes such the synchronisation of mobile base stations.²
10. Optus commends the ACMA for what generally appears to be a considered approach to designing the proposed framework. In particular we welcome the ACMA's proposal to use the radiodetermination assigned apparatus licence type rather than class licensing arrangements to licence RRD systems.³ In combination with the proposed registration requirements under draft RALI MS49, we consider that this should help provide transparency over the operation of RRD systems. We also agree with the exclusion of pseudolites and simulators from licensing and restricting the use of RRDs to the same bands as class licensed RNSS receivers for use "indoors" or within "enclosed spaces".⁴
11. However, we also consider that the proposed framework, particularly draft RALI MS49, appears to suffer from a lack of enforceability or sufficient incentive to comply, which may have the unintended consequence of undermining its effect.

The draft RALI MS49 is novel but may have limited compliance effect

12. The ACMA has advised that the draft "Registration and technical requirements for Radionavigation-Satellite Service (RNSS) Repeater Devices (RRDs)" or draft "RALI MS49" sets out a number of proposed technical arrangements for use of RRDs and incorporates the technical guidelines that applied to the short-term trials conducted in a road tunnel in NSW.⁵
13. We acknowledge that the draft RALI MS49 is atypical in that it is not intended to prescribe a process for coordination, but rather to set out the conditions under which RRDs may be licensed and the procedure for doing so. Indeed, the RALI makes clear that no coordination with other devices or services is required.⁶
14. In effect, the RALI appears to provide a general set of technical conditions against which a prospective RRD operator or installer is to self-assess their compliance before applying for a radiodetermination licence. Optus appreciate that the ACMA's relatively

¹ [Proposed new framework for licensing radionavigation-satellite service retransmission technologies | ACMA](#)

² See Optus July 2020 submission to consultation on "Arrangement for jamming devices and radiocommunications device exemptions" as well as AMTA 12 August 2022 submission to the ACMA consultation on "New arrangements for the banned equipment and exemption framework" which referred to the need for compliance with 3GPP TS 38.401, Version 16.3.0, section 7.4 Cell phase synchronisation accuracy (TDD) and Table 7.4.2-1.
https://www.etsi.org/deliver/etsi_ts/138400_138499/138401/16.03.00_60/ts_138401v160300p.pdf

³ The [Radiocommunications \(Interpretation\) Determination 2015](#) defines a radiodetermination licence as a licence issued for a station using radio waves to determine the position, velocity or other characteristics of an object, or to obtain information relating to those characteristics

⁴ Namely the 1164-1215 MHz; 1215-1240 MHz; 1240-1300 MHz and 1559-1610 MHz bands

⁵ Consultation paper, p.7

⁶ Draft condition 1.2 "Scope"

light touch approach is likely informed by the view that the risk of interference presented by RNSS repeaters is negligible if the devices are operated correctly.⁷

15. In this context, we query whether there is sufficient incentive on a RRD operator or installer to comply with the RALI conditions. For example:
- (a) Must a RRD that complies with the RALI always be registered on the RRL or might this be at the discretion of a licensee? (draft 1.2 of draft RALI)
 - (b) It is unclear how and or who will be responsible for compliance with the condition that “the entirety of the RRD’s intended service area must be confined within an area in which operation of the device is permitted by the owner/administrator(s) of that area” (draft 1.2 of draft RALI)
 - (c) Similarly, it is not clear whether there is an objective standard as to what “poor network design or layout” may be (draft 1.2 of the draft RALI)
 - (d) While proposed special condition 4.7.1.1 (i.e. “no interference shall be caused to stations of other services operating in accordance with the Australian Radio Frequency Plan”) appears to be a useful catch-all, how will compliance with this condition be enforced in practice?

Strengthening installation requirements

16. We also note that, notwithstanding the “outcomes” oriented arrangements contemplated by the RALI, the main assurance that these outcomes will be achieved – namely sound installation practices – appears to be the non-binding “additional guidance” set out in condition 5 of the draft RALI. Having reviewed relevant regulatory materials from OfCom and the US, we note recurring concerns about the interference risk of incorrectly installed as well as unregulated, non-compliant or poorly maintained RRDs.
17. While we acknowledge that the ACMA has included compliance with relevant standards (including ETSI EN 302 645) as a condition of licensed operation,⁸ in light of our general concerns about enforceability, we suggest that the ACMA strengthen the obligation to comply with condition 5 of the draft RALI. We also suggest that the ACMA make it clear that for any RRDs to be considered as “customer equipment”, that the external antenna for connection to the RRDs will need to be installed in compliance with the requirements of the Australian Standard AS/CA S009 (Wiring Rules) and by an ACMA Registered Cabler according to applicable ACMA regulations.

Ensuring technical requirements are aligned with spectrum allocation plans

18. We welcome the ACMA’s confirmation that the spurious emissions limits under the draft RALI are to be aligned with the frequency arrangements for 2GHz spectrum licences.⁹ Having compared the draft RALI to the ETSI Standard we note that the values, gains, limits and boundary conditions are identical other than with respect to PCS 1900 (1.93-1.99GHz and 1.85-1.91GHz), which are proposed to be replaced with 2100MHz (2.11-2.17GHz and 1.92-1.98GHz) limits. In light of this, we query whether the limits relating to RRDs in the 1559-1610MHz band may inadvertently impact on any decision the ACMA

⁷ Consultation paper, p.8

⁸ Under draft condition 4.4 and 4.5 “Installation Requirements”

⁹ Consultation paper, p.7 and tables 1 and 2 of draft condition 4.5 of draft RALI MS49

may make concerning the future use of the 1.5GHz band.¹⁰ As noted above, while draft condition 4.7.1.1 appears well intended, it is unclear how it will be enforced.

19. We note that Optus has previously raised concerns about the need for a comprehensive technical framework.¹¹ While we assume that it is intended that normal interference management processes facilitated by the transparency afforded by devices registration on the RRL are to apply, we do not consider that incumbent spectrum licensees should bear the burden of having to determine the source of any resultant interference. We would therefore welcome the inclusion of a requirement on RRD operators to confirm they have engaged with incumbent licensees prior to applying for a licence or alternatively to confirm that they are ultimately responsible for investigating and then remediating any resultant interference. In this context, we suggest that the notification requirement under draft condition 4.8 could be extended to include nearby mobile network infrastructure owners/operators.
20. Further, as noted above, Optus is also not aware of any data or outcomes from the short-term trials of RNSS devices having been made public or at least shared with potentially affected stakeholders such as MNOs. In the interests of transparency, we would welcome further detail to substantiate the success of the trials and ultimately, the effectiveness of RALI MS49.

Fees

21. Optus acknowledge the ACMA's rationale for proposing low licensing fees, including a flat tax regardless of bandwidth used, is to incentivise deployment of RNSS repeaters. Our support for the proposal to remake the Radiocommunications (Transmitter Licence Tax) Determination 2015 (the TLT Determination) to include the proposed low taxation and charging arrangements is based on the understanding that use of the devices will promote the public interest and "are expected to be deployed in areas where they will have a negligible effect on spectrum denial...and low potential for interference with other devices when used correctly".¹²

Proposed timing for commencement

22. Optus is generally comfortable with the proposed drafting changes to the relevant regulatory instruments, namely the Interpretation Determination and RNSS Determination, along with consequential minor changes to the LIPD Class Licence and the TLT Determination. In particular, we consider the proposal to contain the relevant definitions of "RNSS receiver", "RNSS repeater" and "RNSS repeater system" in the Interpretation Determination to be a logical approach to promoting consistency.
23. However, we understand that the proposed changes to the (four) relevant instruments are only to take effect following consultation on whether to remake those instruments which are due to sunset in April and October 2025. We understand that the effect of this to be that the proposed framework would not commence until the changes to the relevant instruments come into effect. Optus seek further confirmation from the ACMA as to the accuracy of this understanding and ultimately the intended timeframe for the framework to formally come into effect.

¹⁰ the [ACMA has stated in its draft FYSO](#) that the 1.5 GHz (1427–1518 MHz) will be considered separately to the extended MSS L-band with a review of terrestrial (non-satellite) services in the broader 1427–1535 MHz range is proposed for the 2024–25 financial year

¹¹ In the context of the ACMA's consultation on the proposed "New arrangements for the banned equipment and exemptions framework" – August 2022

¹² Consultation Paper, p.8